Can Unconditional Cash Transfers Lead to Sustainable Poverty Reduction?
Evidence from two government-led programmes in Zambia

Sudhanshu Handa, Luisa Natali, David Seidenfeld, Gelson Tembo and Benjamin Davis

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CAN UNCONDITIONAL CASH TRANSFERS LEAD TO SUSTAINABLE POVERTY REDUCTION? EVIDENCE FROM TWO GOVERNMENT-LED PROGRAMMES IN ZAMBIA

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Abstract: Worldwide close to 800 million people are reached by state-operated cash transfer programmes. In sub-Saharan Africa, the poorest region in the world, the number of cash transfer programmes has doubled in the last five years and reaches close to 50 million people. What is the impact of these programmes, and do they offer a sustained pathway out of ultra-poverty? In this paper we examine these questions using experimental data from two unconditional cash transfer programmes implemented by the Government of Zambia. We find far-reaching effects of these two programmes, not just on their primary objective, food security and consumption, but also on a range of productive and economic outcomes. After three years, we observe that household spending is 59 per cent larger than the value of the transfer received, implying a sizeable multiplier effect. These multipliers work through increased non-farm business activity and agricultural production.

Acronyms

BRAC Bangladesh Rehabilitation Assistance Committee

CCT conditional cash transfer

CGP Child Grant Programme

CT-OVC Cash Transfer for Orphans and Vulnerable Children (Kenya)

CWAC community welfare assistance committee

DD difference in differences

DfID Department for International Development (UK)

FAO Food and Agricultural Organization

HFIAS Household Food Insecurity Access Scale

ITT intent to treat

MCP Multiple Category Targeted Programme

MCDMCH Ministry of Community Development, Mother and Child Health (Zambia)

NFE Non-farm enterprise

OLS ordinary least squares

RCT randomized control trial

SSA sub-Saharan Africa

SD standard deviations

ZMW Zambian kwacha currency

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1. INTRODUCTION

With one-fifth of the world's population still living in extreme poverty there remains a vital need to identify interventions which can lead to a sustained pathway out of poverty. Recently several assessments of 'graduation programmes' have generated enthusiasm about their potential to offer a permanent escape from poverty for the world's poorest. These programmes, exemplified by the NGO BRAC in Bangladesh, provide a 'big-push' to extremely poor households consisting of cash transfers, livestock assets, training and supervision in the use of the asset, life-skills training and eventually access to formal sector credit at market interest rates. An evaluation conducted by BRAC itself in Bangladesh reported a 40 per cent increase in consumption four years after the supervision and other training support ended as well as a significantly larger productive asset base relative to a non-experimental comparison group (Raza et al 2012). Subsequently, this model was subject to a multi-site randomized control trial (RCT) in six different countries across three continents by the Graduation Program Consortium. Results of programme impacts across both consumption and economic domains one year after the supervisory visits ended, and approximately 2-3 years after the initial transfer of assets, show continued positive impacts on both consumption/food-security and productive assets, though with some variation cross sites (Banerjee et al 2015). Importantly, given the large upfront cost of the big-push graduation model and the intensive hand-holding it entails, a cost-benefit assessment shows net positive returns in five of the six sites, suggesting that this type of approach makes financial sense. A more recent paper, which is based on data from BRAC beneficiaries in Bangladesh, also calculates positive benefit-cost ratios as well as large increases in more productive labour activities among women four years after the initial transfer of assets (Bandiera et al 2016).

The BRAC approach serves as a template for similar interventions which are currently estimated to reach almost half a million people in Bangladesh and another half a million across 20 countries world-wide. Meanwhile, a recent review by the World Bank (2015) estimates that around 150 countries in the developing world have implemented cash assistance programmes and that approximately 800 million people are reached by some type of cash transfer programme. Significant expansion of cash transfer programmes have recently occurred in sub-Saharan Africa (SSA), with a doubling of development-oriented programmes from 20 to 41 between 2010 and 2015, reaching an estimated 8-10 million households or 50 million individuals (World Bank 2015, Garcia and Moore 2012). Such programmes are of course fundamentally different from graduation programmes both in objective and implementation. First, their primary objective is poverty mitigation rather than economic empowerment, although many large programmes on the continent do have economic security as a secondary objective.[1] And second, cash transfer programmes tend to be nationally owned and implemented, while the graduation model to this date is only implemented in the NGO sector, probably due to its complexity and the large initial upfront investment required to launch the programmes. Given the relative simplicity of the unconditional cash transfer model, its popularity world-wide, and the sheer number of beneficiaries currently

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[1] For example the Malawi Social Cash Transfer Program and Ghana's Livelihood Empowerment Against Poverty both mention economic empowerment goals as additional programme objectives.

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being reached, an obvious question is whether it has the potential to go beyond just protecting consumption and generate impacts on productive activity as well, which could ultimately lead to permanent increases in living standards.

How could a small, predictable sum of money, paid monthly or bimonthly lead to long-term poverty reduction? Most theories on poverty cite credit or informational constraints, lack of skills, lack of access to instruments to manage risk, and present bias (myopia) as some of the key determinants of poverty, and the graduation model addresses several of these constraints directly. An unconditional cash transfer in its simplest form, in other words without any explicit message or complementarity intervention, would in principle only directly address two constraints: liquidity and insurance. Although targeting is to the ultra-poor, even these households might spend some of the transfer on agricultural production as a way to ensure their food security, and lumpy or unpredictable transfers might be used for investment.

The literature to date on the economic impacts of cash transfers is thin, both because this is not their primary aim, and because most evaluations do not follow households long enough for productive effects to establish themselves. Gertler et al (2012) report positive impacts of Mexico's Progresa (now called Prospera) conditional cash transfer (CCT) on livestock holdings and small business activity 18 months after programme initiation, and show that increases in consumption in the original treatment group were larger than the control group that entered the programme four years later, suggesting a multiplier effect of the cash transfer operating through productive activity. On the other hand, Maluccio (2010) did not find any productive effects of a similar conditional cash transfer programme in Nicaragua after 18 months. Recently the Food and Agricultural Organization (FAO) in collaboration with UNICEF began a major initiative to document the productive impacts of national cash transfer programmes in SSA. A summary of initial results across seven unconditional cash transfer programmes, all implemented by government, suggest that they have impacts on livestock assets, engagement in non-farm business activity, and on-farm investment in fertilizer and seeds (PtoP 2014; Daidone et al 2016; Covarrubias et al. 2012; Handa et al. 2016), with variations depending on the size and predictability of the transfer and the demographic composition of target households.

In 2010, the Zambian government began testing two different cash transfer models to inform future scale-up decisions. Each programme was accompanied by a randomized control trial (RCT) with one baseline and several longitudinal post-intervention follow-ups starting at 24-months. Both models entailed a flat unconditional cash transfer of approximately USD12 (USD24 PPP) per month paid every two months. The Child Grant Programme (CGP) targeted all households with a child under age three in three poor rural districts, while the Multiple Category Targeted Programme (MCP) targeted vulnerable households, those with a female or elderly head keeping orphans, or a household with a disabled member, in two rural districts. Neither programme was explicitly poverty targeted at the household level, but the strong geographical targeting resulted in 90 per cent of beneficiaries below the national poverty line in each programme and median beneficiary consumption was less than 40 US cents per person per day. The distinct demographic criteria across the two programmes meant that the same basic programme was delivered to extremely poor households but with very different demographic make-ups. Figure 1 (page 9) shows the age

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distribution of households in the CGP (left panel) and MCP (right panel) at baseline. The CGP is composed of younger households with more prime-age members while MCP households actually have an absence of prime-age members, and instead many more adolescents and elderly care-takers. While both sets of beneficiaries are equally poor, the difference in their demographic composition allows us to observe whether the pattern of impacts across programmes is different, and in particular, whether the potential for sustainable livelihood improvement is higher among households with more prime-age members.

Figure 1 – *Age distribution of the CGP and MCP samples at baseline*
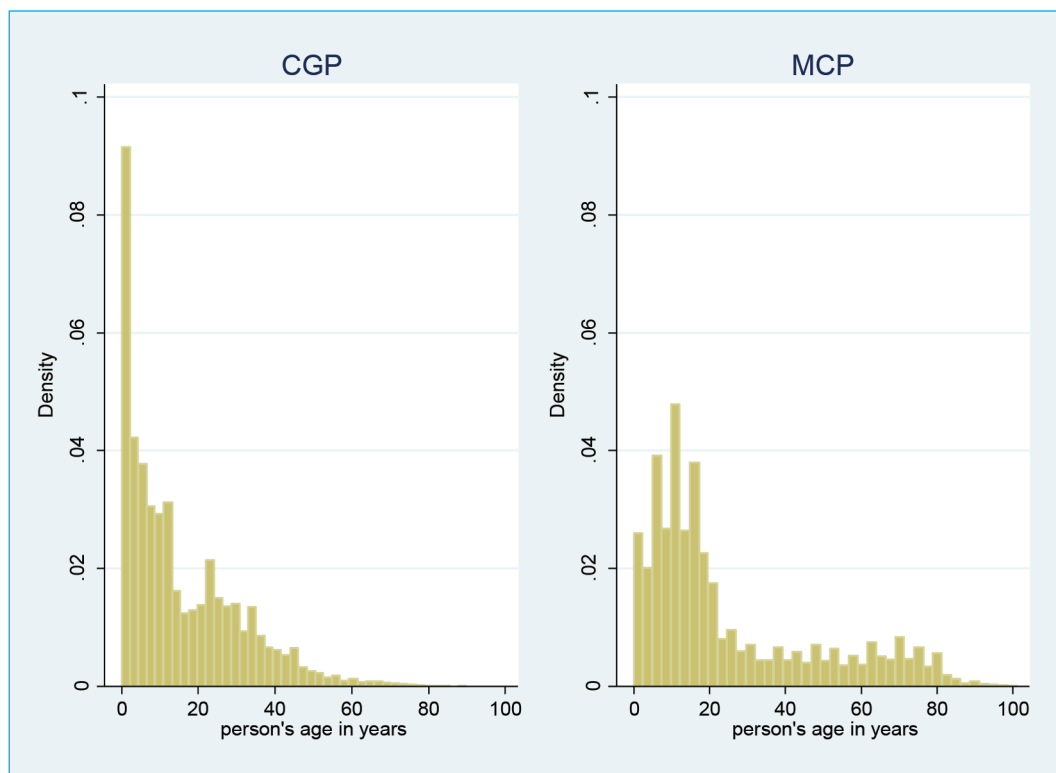
We present comparative results for both programmes across eight major domains covering both protective and productive outcomes, even though the primary objective of the programmes themselves is protective. The domains are consumption, food security, assets, income and revenue, finance and debt, relative poverty, children's material needs and schooling. An overview of the main results at 36-months post-intervention for each domain is presented in Figure 2 (page 10), reported in standard deviations of the control group for ease of comparability across programmes and domains. What is startling are the strong effects across not just protective domains (consumption, food security, and children's material needs) but also productive ones. Also of interest is that the summary impacts do not differ significantly across household eligibility type despite the very different age composition of members. There are, however, nuances in terms of specific impacts, especially in productive domains, which we discuss in more detail later. Using these estimates we monetize the consumption, savings and asset accumulation impacts in a one year period and compare this value to the yearly transfer to derive an income multiplier of around 1.59 averaged

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across both programmes. In other words, beneficiary households are able to convert each Zambian kwacha (ZMW) of transfer into an additional 0.59 ZMW worth of income. These estimates suggest that these programmes go well beyond their primary goal of protecting consumption, and that even in the absence of complementary interventions such as those in the graduation model, small, predictable unconditional cash transfers may also contribute to longer-term poverty reduction. A true test of that proposition would be to follow households once they leave the programme. At the very least, these programmes seem to fulfil the necessary first step of allowing households to protect their consumption while also improving their productive capacity.

Figure 2 – *Intent-to-treat estimates at 36-months, CGP versus MCP*
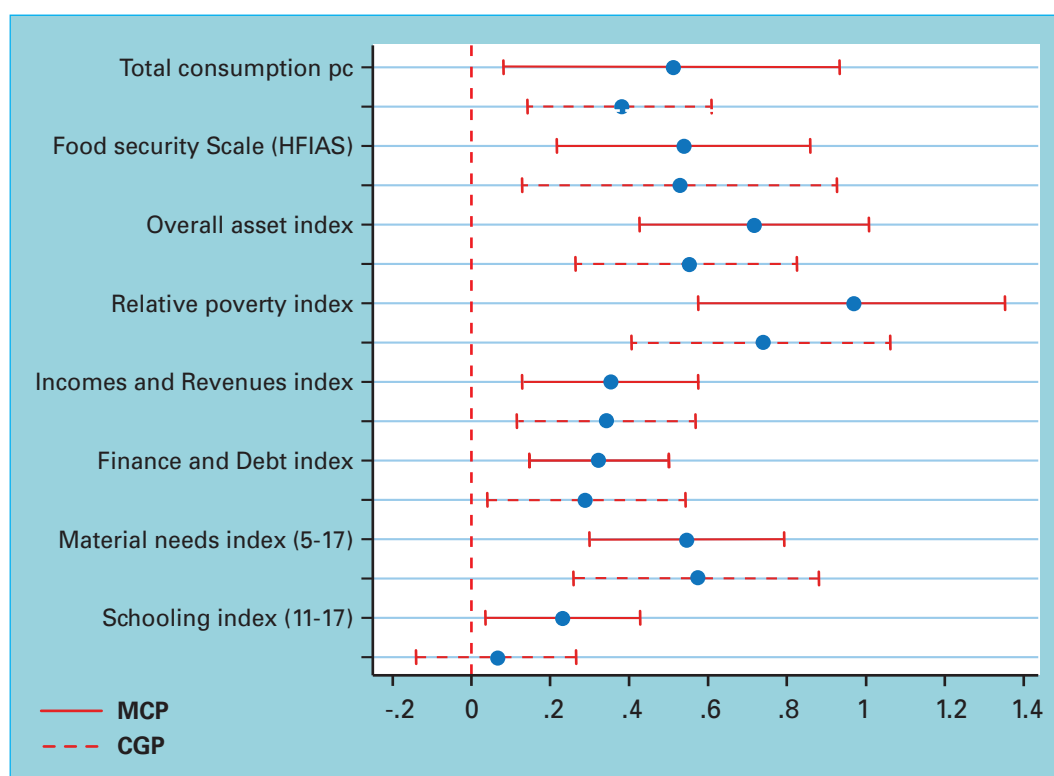
Note: Effect size in standard deviations (SDs) of the control group

2. OVERVIEW OF THE TWO PROGRAMMES AND STUDY DESIGN

Both the CGP and MCP were implemented by the Government of Zambia's Ministry of Community Development, Mother and Child Health (MCDMCH), and provided a flat transfer of USD12 per month to beneficiaries irrespective of household size. Payments were unconditional and made bimonthly in person by Ministry employees at designated pay-points. The CGP was implemented in the three rural districts of Shangombo, Kalabo (Western Province) and Kaputa (Northern Province) while the MCP was implemented in the rural districts of Serenje (Central Province) and Kaputa (Northern Province). All five districts are so extremely poor that, though the programmes did not target poverty at the household level, 90 per cent of beneficiaries were below the national poverty line, and median consumption was less than 40 US cents per person per day. Using baseline data we estimated the

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transfer to represent 25 per cent of pre-programme consumption. Analysis of administrative data by the study team indicated that not only were payments made on schedule during the study period but over 95 per cent of beneficiaries collected their payments on time. An operations module fielded as part of the evaluation did not reveal any indication of leakage due to bribes or requests for payments from village elders or programme officials (AIR 2014a).

While programme parameters are identical, a key difference in design is the demographic eligibility criterion. The CGP was targeted to households with a child under age 3 while the MCP was targeted to households with various types of vulnerabilities, leading to very different family structures in the two programmes. The CGP beneficiaries were typically young families with prime-age members and young children, while the MCP beneficiaries were 'missing generation' families with very few prime-age members and many adolescents. For example, the mean recipient age in the CGP was 30 with on average 1.36 members age 19-35 and 0.03 members age 70+, compared to a mean age of 50 in the MCP with only 0.76 members age 19-35 and 0.40 members age 70+ (Table 2). These stark differences in demographic composition allow for an interesting assessment of whether they lead to different patterns in programme impacts.

Both the CGP and the MCP are multi-site RCTs. In each district, community welfare assistance committees (CWACs) were first randomly selected to enter the study and households were subsequently sampled from each selected CWAC. After baseline data collection, CWACs were then randomly assigned to intervention or delayed entry control status via a public coin toss conducted by the Permanent Secretary of the MCDMCH. In the MCP, 92 CWACs were randomly selected for the study (46 from each district) whereas in the CGP 90 CWACs were randomly selected (30 within each district).

The main household survey instrument was quite comprehensive and included modules on consumption, health, education, housing, agricultural and other productive activities. Most survey items were taken from the Zambia Living Conditions Monitoring Survey (LCMS) or the Demographic and Health Survey, both of which are conducted periodically by the National Statistics Office. The core survey was administered to one main respondent in the household, typically the member designated by the programme to receive the transfer. This was the biological mother or primary care-giver of the index child in the CGP, or the care-giver or disabled member in the MCP. A key feature of the instrument is that we implemented the entire consumption module from the LCMS, featuring over 200 food and non-food items, so that we could make strict 'apples-to-apples' welfare comparisons between the beneficiary population in the two programmes and the rest of the country, important for assessing the targeting strategy employed by the Ministry.

The evaluation was commissioned by the MCDMCH and UNICEF-Zambia to the American Institutes for Research and the University of North Carolina at Chapel Hill. The study underwent ethical review at the American Institutes for Research (AIR) in Washington, D.C. and at the University of Zambia. Questionnaires and summary reports for both programmes are available on the Transfer Project website (http://www.cpc.unc.edu/projects/transfer). Table 1 (page 12) provides an overview of programme targeting criteria and key timelines.

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Table 1. – *Programme parameters and study timelines*

	The Child Grant Programme	**The Multiple Category Targeting Programme**
Eligibility requirements	The scheme targets households who have children under the age of five (59 months). However, the eligibility criteria at entry point is for children below 3 years-old (36 months) with evidence of under-5 card.	Households that meet one of the following criteria: • A female headed household keeping orphans • A household with a disabled member • An elderly headed household (over 60 years old) keeping orphans • A special case, being critically vulnerable
Cash transfer	In 2010, 55 kwacha (ZMW) a month (equivalent to USD 12) irrespective of household size, an amount deemed sufficient to purchase one meal a day for everyone in the household for one month.	In 2011, eligible households receive 60 kwacha (ZMW) a month (equivalent to USD12) irrespective of household size, an amount deemed sufficient to purchase one meal a day for everyone in the household for one month.
Started	2010	2011
Midline (after 24m)	2012	2013
Endline (after 36m)	2013	2014
Location	3 rural districts of Zambia: Kaputa (Northern Province), Kalabo and Shangombo (Western Province)	2 rural districts of Zambia: Serenje (Central Province) and Luwingu (Northern Province)
Sample size	2,519 households	3,078 households
Unit of randomization	CWAC - Community Welfare Assistance Committees (90)	CWAC - Community Welfare Assistance Committees (92)
Method of randomization	Public lottery	Public lottery

3. DATA, BALANCE AND ATTRITION

3.1 Data

The baseline samples contain 2,519 and 3,078 households in the CGP and MCP respectively. In both cases, the study sample size was powered to detect significant effects for key programme indicators that required the largest sample size. For the CGP this was child anthropometry while in the MCP this was school enrolment among secondary school-age children. Sample size requirements for household level indicators such as consumption, food security and livestock ownership were smaller than for these individual indicators.

Baseline descriptive statistics

As mentioned earlier, due to the strong geographic targeting of the two programmes, households are extremely poor, with mean per capita consumption of ZMW 41 in the CGP and ZMW 51 in the

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MCP–the latter is in 2011 units (see Table 2, page 14). When converted to US dollars at prevailing exchange rates this represents 30 US cents per person per day. This low level of consumption is consistent with low levels of food security, with only around 15 (MCP) to 20 (CGP) per cent of the sample not or rarely worrying about food, and 57 per cent of the combined sample not going a whole day without eating in the last four weeks. Households also have low levels of education – 30 per cent or more of recipients had never attended school. The key difference across the two samples is driven by the distinctive targeting criteria of the two programmes which leads to notably different demographic compositions: households are slightly larger in the CGP (5.7 vs 5.0 in the MCP), have more children under 5 but fewer secondary school-aged children (age 13-18); they also have more prime-age adults (age 19-35) and fewer older people. This is also reflected in the recipient's characteristics who are much older in the MCP (56 years vs 30 years of age in the CGP). Recipients in the CGP are more likely to be married (67 per cent) while in the MCP recipients are mostly widowed (55 per cent) or divorced/separated (10 per cent). Finally, in the CGP virtually all recipients are women compared to only 75 per cent in the MCP.

The individual sub-group indicators shown in Table 3 (page 15) are fairly comparable across the two samples, with slightly higher baseline savings rates among women in the CGP and slightly higher fulfilment of material needs among children 5-17 years in the MCP though in both samples the greatest deprivation comes from lack of shoes. As the CGP is focused on families with young children, we also collected anthropometric measurements for children under 5 years of age which are reported in the Appendix (Table A2, page 35) – these indicate that 35 per cent of children were stunted and 16 per cent underweight at baseline.

3.2 Balance

The CWAC level randomization for both studies resulted in balance across virtually all major programme indicators. Balance tests for household characteristics and selected outcome indicators are shown in Table 2 (page 14). For the CGP only two indicators are significantly different at baseline between intervention and control groups (proportion of recipients divorced/separated, and whether household owned any goats). For the MCP one indicator – value of harvested crop – is statistically significant. Table 3 (page 15) reports balance tests for indicators related to specific sub-groups of household members – women, children aged 5-17 and children aged 11-17. The only statistically significant difference at baseline is for school enrolment among children aged 11-17 in the MCP, where enrolment is slightly lower in the intervention group (75 versus 79 per cent).

3.3 Attrition

Overall household attrition across the three waves is 10 per cent in the CGP sample. This is driven by the drying up of the Cheshi Lake, in the Kaputa district at the 24-month wave that forced many households to relocate. Many of these households were recovered in wave three so that attrition between wave three and baseline was only five per cent. Attrition rates are not statistically significantly different between treatment and control arms. In the MCP, overall household attrition is 5 per cent though it is slightly higher in the treatment group (5.6 versus 3.5 per cent). An analysis

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of differential attrition is shown in the appendix (Tables A3, page 35 and A4, page 36). For the CGP only one of the nearly 50 indicators are significantly different between the attritors in treatment and control groups (number of household members age 0-5), while there is no significant difference across the two groups in the MCP sample.

Table 2 – *Baseline balance tests for key household and beneficiary characteristics*

	CGP (N=2,272)			MCP (N=2,938)		
	Control	Treatment	P-value of diff	Control	Treatment	P-value of diff
Recipient widowed	0.06	0.06	0.83	0.55	0.56	0.76
Recipient never married	0.11	0.11	0.92	0.04	0.03	0.52
Recipient divorced or separated	0.09	0.06	0.03	0.10	0.09	0.79
Recipient ever attended school	0.70	0.74	0.29	0.64	0.64	0.86
Female recipient	0.99	0.99	0.15	0.75	0.76	0.70
Age of recipient	29.58	29.91	0.62	56.97	56.16	0.51
Household size	5.63	5.76	0.45	5.02	5.00	0.89
No. of household members aged 0–5	1.90	1.89	0.86	0.68	0.73	0.49
Members aged 6-12	1.27	1.27	0.94	1.23	1.31	0.24
Members aged 13-18	0.53	0.60	0.16	0.98	0.93	0.26
Number of people aged 19-35	1.30	1.36	0.22	0.82	0.76	0.42
Number of people aged 36-55	0.54	0.54	0.90	0.54	0.52	0.53
Number of people aged 56-69	0.07	0.07	0.69	0.37	0.39	0.43
Number of people aged 70 or older	0.03	0.03	0.59	0.40	0.36	0.21
Total household expenditure per person	39.60	41.57	0.47	51.50	49.71	0.54
Asset index	0.27	0.31	0.22	0.44	0.39	0.16
Livestock index	0.20	0.22	0.39	0.30	0.26	0.28
Productive asset index	0.32	0.35	0.25	0.75	0.72	0.49
Value of harvest (ZMW)	328.84	360.12	0.50	1,058.37	874.64	0.05
Does not worry about food	0.21	0.20	0.95	0.15	0.15	1.00
Does not go to sleep hungry at night	0.43	0.50	0.14	0.54	0.52	0.44
Does not go whole day w/o eating	0.50	0.56	0.23	0.60	0.58	0.71
Food security scale (HFIAS)	8.73	9.04	0.60	9.34	9.25	0.84
Owned any chickens in last 12 months	0.43	0.44	0.88	0.50	0.45	0.21
Owned any goats in last 12 months	0.01	0.03	0.03	0.13	0.10	0.18
Owns a pick	0.03	0.03	0.99	0.09	0.07	0.16

P-values are reported from Wald tests on the equality of means of Treatment and Control for each variable. Standard errors are clustered at the community level.

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Table 3 – Baseline balance tests for sub-group indicators

	CGP			MCP		
	Control	Treatment	P-value of diff	Control	Treatment	P-value of diff
Female respondent level indicators						
Holding any savings	0.16	0.18	0.39	0.12	0.12	0.71
Amount saved last month (ZMK)	20.41	17.34	0.68	15.71	6.35	0.23
Log amount saved last month	0.59	0.66	0.54	0.40	0.39	0.87
Believes life will be better in future	0.67	0.70	0.56	0.77	0.80	0.22
Material needs – children 5-17 years						
Child has shoes	0.14	0.14	0.92	0.22	0.19	0.27
Child has two sets of clothing	0.63	0.64	0.88	0.79	0.74	0.14
Child has blanket	0.58	0.56	0.78	0.63	0.58	0.24
All needs met (shoes, blanket, clothes)	0.11	0.11	0.91	0.17	0.14	0.20
Schooling indicators – children 11-17 years						
Currently attending school	0.79	0.81	0.56	0.79	0.75	0.04
Full attendance prior week	0.60	0.65	0.19	0.64	0.60	0.13
Number of days attended prior week	3.48	3.61	0.37	3.55	3.34	0.06

P-values are reported from Wald tests on the equality of means of Treatment and Control for each variable. Standard errors are clustered at the community level. Sample sizes for CGP and MCP respectively are: Female respondents: 2221 and 2512, children 5-17: 4,409 and 6409, children 11-17: 1,701 and 3,594.

4. METHODOLOGY AND KEY MEASURES

We estimate programme impacts using a difference-in-differences (DD) model augmented with a vector of baseline covariates and allowing for differential impacts at 24 and 36 months. The core estimating equation is

$$Y(i,t) = \alpha + \beta_T T(i) + \beta_{R2}(R2) + \beta_{R3}(R3) + \beta_{TR2}(T(i) * R2) + \beta_{TR3}(T(i) * R3) + \sum_{j=1}^{J} \theta_j X_j(i,t) + \varepsilon(i,t)$$

In this framework $Y(i,t)$ is the outcome indicator for the household/woman/child i at time t. $T(i)$ is a dummy equal to one if in the treatment group, $R2$ and $R3$ capture the two follow-ups at 24 months and 36 months respectively and β_{TR2} and β_{TR3} capture the intent-to-treat (ITT) effects at 24 and 36 months respectively; X is a set of pre-treatment demographic controls and ε is the error term. Regressions are estimated using OLS with robust standard errors clustered at the CWAC level. We restrict our sample to the full panel, that is, to only households that appear in all three waves, although results are the same when we relax this assumption and use households that appear in at least two waves. To ensure external validity of our estimates, that is, that they are representative of all eligible households, we weight the regression by the inverse of the probability of appearing in all three waves. Further details of the inverse probability weights calculations are available in evaluation reports on the Transfer Project website.[2]

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[2] There is no selective attrition so the estimates with and without the inverse probability weights are similar. Nevertheless we choose to use the weights to ensure results are consistent with the official evaluation documents that are publically available in Zambia.

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For all outcomes we have estimated both unadjusted and covariate adjusted impacts but report only the adjusted results here due to space constraints. Adjusted regressions include pre-treatment measures for household demographic composition and size, recipient's age, education and marital status, and district dummy variables. For child outcomes, we also included the age and sex of the child.[3]

Some of our outcome variables were not collected at baseline (see Table 4, page 17) so for these we estimate single difference models at 24 or 36 months, controlling for the same set of pre-treatment covariates. These estimates naturally rely on baseline equivalence for identification. The key assumption behind the difference in differences (DD) is that of parallel trends. We do not have multiple pre-treatment data points to explicitly test for differences in trends between treatment arms but control CWACS are from the same districts as treatment ones which makes this assumption more tenable. We analysed trends in village level prices during the study period and these showed no statistically significant differences between treatment and control arms over time.

We report results for almost 40 outcome variables – at the household, woman and child level – grouped into 8/9 domains as reported in Table 4 (the definition of each indicator is reported in Table A1 in the Appendix, page 33). We define all indicators so that higher values are positive outcomes. Note that for loans and debt, unlike Banerjee et al (2015) we consider less debt and fewer loans as positive outcomes. In our study sample, virtually all loans are taken from informal sources and used for consumption, and beneficiaries report that reducing outstanding debt is a key concern of theirs. In order to compare effect sizes across indicators and domains, we follow the approach taken by Banerjee et al (2015) and convert all variables into z-scores by subtracting the control group mean (at each wave) and dividing by the control group standard deviation (at each wave); this implies that at each wave the control group has a mean of 0 and standard deviation of 1.

4.1 Multiple Testing

As we estimate impacts on over 40 indicators across multiple domains and two programmes, we may find false positives just because of the sheer number of tests computed. We take two approaches to account for this multiple testing. First, for each family of outcomes, we adjust p-values using the Sidak-Bonferroni adjustment (Abdi 2007). Second, we build summary indexes as 'lead indicators' for each domain following (Anderson 2008; Kling et al., 2007). Specifically, for each domain with the exception of consumption, food security and material needs, the summary index is computed as the equally weighted average of z-scores of each indicator within the domain, then standardized against the control group within each round.[4] In the case of consumption, food security and child material

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[3] We used baseline age and gender for all child outcomes apart from anthropometric indicators for which we used contemporaneous age and gender.

[4] Following Kling et al. (2007:89), we treat missing values as follows: "If an individual has a valid response to at least one component measure of an index, then any missing values for other component measures are imputed at the random assignment group mean. This results in differences between treatment and control means of an index being the same as the average of treatment and control means of the components of that index (when the components are divided by their control group standard deviation and have no missing value imputation), so that the index can be interpreted as the average of results for separate measures scaled to standard deviation units."

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Table 4 – *Indicator list by wave and domain*

DOMAIN	Indicators	Level	Baseline MCP	Baseline CGP	24 months MCP	24 months CGP	36 months MCP	36 months CGP
CONSUMPTION	Overall per capita consumption*	Household (pc)	X	X	X	X	X	X
	Food consumption		X	X	X	X	X	X
	Non-food consumption		X	X	X	X	X	X
FOOD SECURITY	Rarely or never worries about food	Household	X	X	X	X	X	X
	Able to eat preferred food		X	X	X	X	X	X
	Rarely or never eats food he/she does not want to due to lack of resources		X	X	X	X	X	X
	Rarely or never eats smaller meal than needed		X	X	X	X	X	X
	Rarely or never eats fewer meals because there is not enough food		X	X	X	X	X	X
	Rarely or never has no food to eat because of lack of resources		X	X	X	X	X	X
	Rarely or never goes to sleep hungry		X	X	X	X	X	X
	Rarely or never goes a whole day/night w/o eating		X	X	X	X	X	X
	Food security scale (HFIAS, 0-24 where higher means more food secure)*		X	X	X	X	X	X
ASSETS	Domestic asset index	Household	X	X	X	X	X	X
	Livestock index		X	X	X	X	X	X
	Productive index		X	X	X	X	X	X
FINANCE / DEBT	Whether woman currently saving cash	Woman	X	X	X	X	X	X
	Amount saved by women		X	X	X	X	X	X
	Whether household has new loan	Household			X		X	X
	Reduction in the amount borrowed				X		X	X
	Not having an outstanding longer-term loan (loans taken out more than 6 months before the follow-up considered)				X		X	X
	Reduction in the amount owed				X		X	X
INCOME AND REVENUES	Value of harvest ZMW	Household	X	X	X	X	X	x**
	Total crop expenditures		X	X	X	X	X	X
	NFEs [operating or not]				X	X	X	X
	NFEs [revenues]				X	X	X	X
RELATIVE	Not considering household very poor	Household	X	X	X	X	X	X
	Better off compared to 12 months ago		X	X	X	X	X	X
	Think life will be better than now in either 1, 3 or 5 years	Woman	X	X	X	X	X	X
MATERIAL NEEDS	Shoes	Child (5-17)	X	X	X	X	X	X
	Blanket		X	X	X	X	X	X
	Two sets of clothes		X	X	X	X	X	X
	All needs met*		X	X	X	X	X	X
SCHOOLING	School enrolment	Child (11-17)	X	X	X	X	X	X
	Days attended in prior week		X	X	X	X	X	X
NUTRITION OF YOUNG CHILDREN [CGP only]	Not underweight	Child (0-5)		X		X		X
	Not wasted			X		X		X
	Not stunted			X		X		X

*Denotes lead indicators in that domain. In domains without a lead or summary indicator, an index is created based on all the indicators listed in that domain. X denotes indicator was included in the wave and study. ** We use crop figures collected at a special 30-month follow-up which referred to the same crop season that the 36-month follow-up would have referred to.

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needs, we simply standardize total consumption, the food security scale and "all child needs met" indicators as these are already summary statistics for that particular domain.

We then estimated the mean standardized treatment effect (ITT) on each outcome separately and report these estimates in the figures below. Estimates based on actual units are provided in the appendix (Tables A5– A21, pages 33-45) and those based on standardized units are available in the online supplementary material available with this Paper. For each family of outcomes, we adjust p-values to take into account multiple inference testing and also report the ITT on the summary index/lead indicator.

5. RESULTS OVERVIEW

We begin by presenting a summary of results using domain indices rather than the whole set of outcome indicators, and adjust p-values for multiple inference testing across domains. Figures 3 and 4 show graphically the standardized impact estimates with adjusted confidence bounds for the CGP and MCP respectively. Beginning with the CGP, the programme has had a significant impact on seven of the nine domains considered, the two exceptions being secondary school-age children's schooling and young child anthropometry. The largest effect sizes occur for subjective well-being (relative poverty) and for children's material needs, both at 24 months. However, both indices are subject to a ceiling effect (no further room for improvement among treatment households) which explains why their effect sizes decline at 36 months. Overall there is no clear indication that effect sizes increase over time.

Figure 3 *– Intent-to-treat effects in nine domains by wave (CGP)*
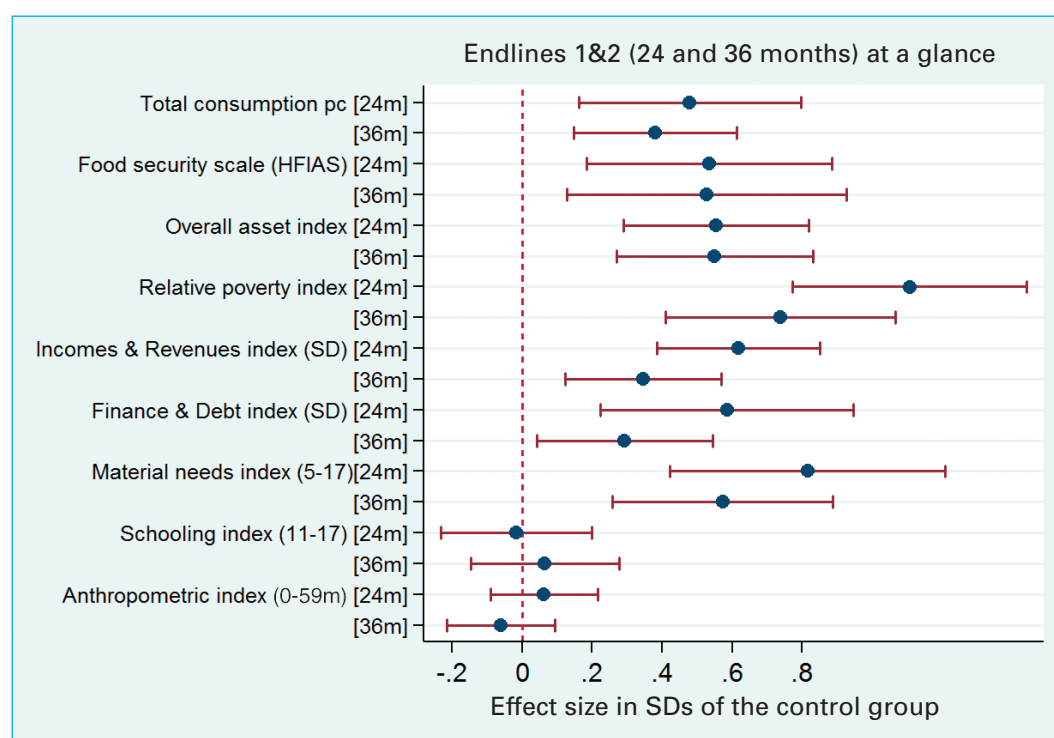
Note: Confidence intervals are adjusted using Sidak-Bonferroni.

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In Figure 4, the MCP has had significant impacts in seven of the eight domains considered, the lone exception being Incomes & Revenues at 24 months but this turns significant at 36 months. The largest point estimate is again associated with subjective well-being. While there is some hint that effects grow larger over time, all of the 24- and 36-month confidence bounds within domains overlap. Noteworthy is the significant impact of the MCP on schooling which is in contrast to the CGP – recall that the MCP has many more secondary school age children, and in fact, very few CGP households actually have a child over the age of 14, so this is not a priority indicator for households targeted under the CGP. Another interesting difference is that by 36 months the effect of the MCP on assets is much larger than in the CGP – this is driven mainly by livestock. On the other hand, the effect of the CGP on Incomes & Revenues appears to be larger than in the MCP, at 24 months, an effect which is driven by non-farm enterprise. These hint at the different ways that the two sets of households use the cash transfer.

The main take-away from these summary results is that both cash transfer programmes generate significant impacts across both protective (consumption, food security) and productive domains. Both programmes also have an important effect on children's material deprivation. And while the MCP significantly raises school enrolment among secondary school-age children, the CGP does not have an impact on nutritional status of preschool children, despite improvements in food security and consumption at the household level.

Figure 4 – *Intent-to-treat effects in eight domains by wave (MCP)*
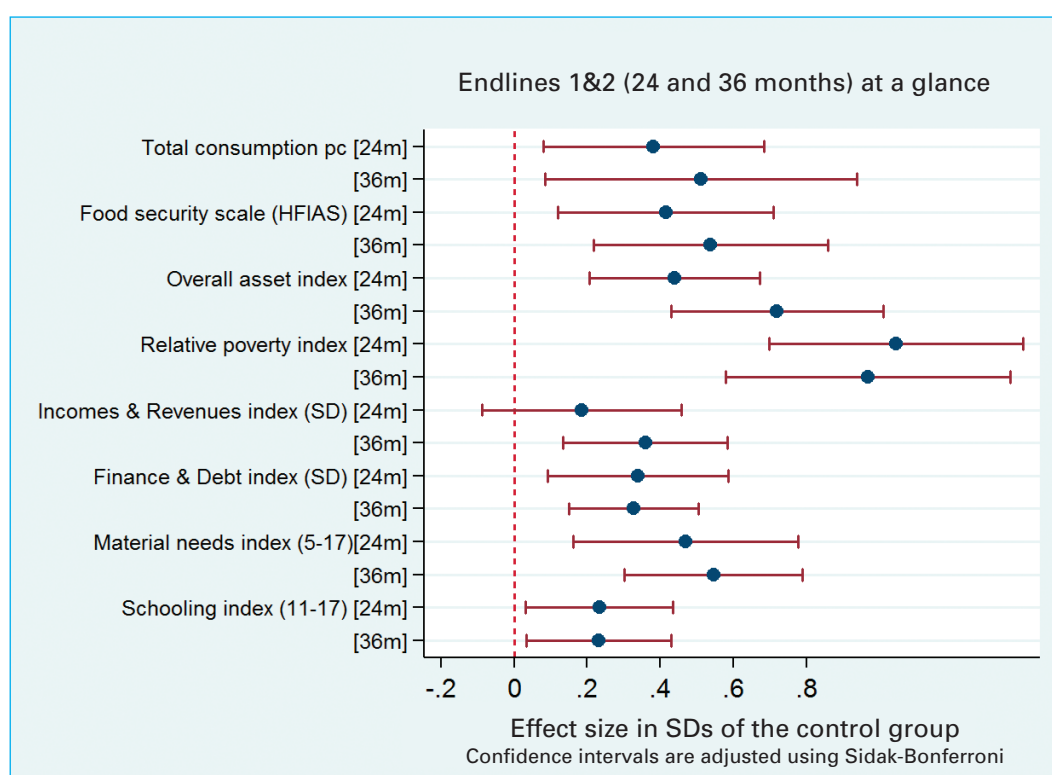
Tables 5 (page 20) and 6 (page 21) report the point estimates and associated p-values for the numbers underlying Figures 3 and 4, along with the unadjusted and adjusted p-values for multiple inference

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Table 5 – *Effects of CGP on domains indices (mean standardized ITT)*

	Total consumption pc	Food security scale (HFIAS)	Overall asset index	Relative poverty index	Incomes & Revenues index	Incomes & Revenues index	Finance Debt index	Finance Debt index	Material needs index (5-17)	Schooling index (11-17)	Anthropometric index (0-59m)
Impact at 24 months	0.48 (0.10)***	0.53 (0.11)***	0.56 (0.08)***	1.11 (0.11)***	0.62 (0.08)***		0.58 (0.12)***		0.82 (0.12)***	-0.02 (0.07)	0.06 (0.05)
Impact at 36 months	0.38 (0.07)***	0.53 (0.13)***	0.55 (0.09)***	0.74 (0.11)***		0.35 (0.07)***		0.29 (0.08)***	0.57 (0.10)***	0.07 (0.07)	-0.06 (0.05)
R^2	0.23	0.10	0.20	0.22	0.15	0.14	0.07	0.04	0.16	0.07	0.02
N	6,813	6,776	6,815	6,813	2,272	2,272	6,667	2,272	14,798	6,027	10,074
Unadjusted p-value: 24m impact=0	0.00	0.00	0.00	0.00	0.00		0.00		0.00	0.82	0.20
Adjusted p-value: 24m impact=0	0.00	0.00	0.00	0.00	0.00		0.00		0.00	1.00	0.86
Unadjusted p-value: 36m impact=0	0.00	0.00	0.00	0.00		0.00		0.00	0.00	0.33	0.22
Adjusted p-value: 36m impact=0	0.00	0.00	0.00	0.00		0.00		0.01	0.00	0.97	0.89

Notes: Estimations use difference-in-difference modeling (single difference for the Income & Revenues indices and the Finance & Debt index at 36m). Robust standard errors clustered at the community level are in parentheses. * $p<0.1$ ** $p<0.05$; *** $p<0.01$. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts. The Finance & Debt index at 24-months does not include debt and credit indicators; see text for further details.

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Table 6 – *Effects of MCP on domains indices (mean standardized ITT)*

	Total consumption pc	Food security scale (HFIAS)	Overall asset index	Relative poverty index	Incomes & Revenues index	Incomes & Revenues index	Finance Debt index	Finance Debt index	Material needs index (5-17)	Schooling index (11-17)
Impact at 24 months	0.38 (0.10)***	0.41 (0.10)***	0.44 (0.08)***	1.05 (0.11)***	0.19 (0.09)**	0.34 (0.08)***			0.47 (0.10)***	0.23 (0.06)***
Impact at 36 months	0.51 (0.14)***	0.54 (0.10)***	0.72 (0.09)***	0.97 (0.13)***			0.36 (0.07)***	0.33 (0.06)***	0.55 (0.08)***	0.23 (0.06)***
R^2	0.27	0.08	0.25	0.17	0.07	0.06	0.08	0.03	0.07	0.04
N	8,810	8,733	8,811	8,811	2,937	2,937	2,937	2,936	18,097	10,429
Unadjusted p-value: 24m impact=0	0.00	0.00	0.00	0.00	0.04	0.00			0.00	0.00
Adjusted p-value: 24m impact=0	0.00	0.00	0.00	0.00	0.29	0.00			0.00	0.00
Unadjusted p-value: 36m impact=0	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00
Adjusted p-value: 36m impact=0	0.00	0.00	0.00	0.00			0.00	0.00	0.00	0.00

Notes: Estimations use difference-in-difference modeling (single difference for Income & Revenues and Finance & Debt indices). Robust standard errors clustered at the community level are in parentheses.
* p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

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across domains. Looking at the bottom of the two tables there is only one case where the adjustment for multiple inference changes the significance of the point estimate – Incomes & Revenues at 24-months in the MCP. However by 36 months the standardized estimate of the programme on this domain increases substantially to 0.33 and becomes statistically significant even after adjusting the p-value.

6. RESULTS BY INDICATOR

We provide a visual summary of the results for each indicator by programme and follow-up wave to understand which specific components are driving the results shown in the previous section. As before, all effects are in standardized units with associated confidence bounds which in this case are not adjusted for multiple inference – adjusting the p-values leads to very few changes in significance (in the CGP, out of 64 impacts estimated, only 5 are no longer significant after controlling for multiple inference and in the MCP 6 out of 62). Means for each indicator by programme and survey wave in original units are reported in Tables 7 (CGP) and 8 (MCP). Regression coefficients for each indicator, measured in actual units and with adjusted p-values, are presented in the Appendix (Tables A5–A21, pages 33-45) while impact estimates based on SD units and a detailed write-up of the estimation results is available in the online Supplementary Material.

Figures 5 and 6 sum up the impacts of the CGP at 24 and 36 months on each individual indicator[5] grouped by domain—for ease of reference the first indicator in each domain is the summary index or lead indicator that was reported in the previous section. At 24-months, the programme has had an impact on virtually all the individual items within each domain for the seven domains where the index turns up significant. Exceptions are two of the eight components of the food security scale (the other individual indicators are not shown in the graph) and the value of harvest. By 36 months a few indicators are no longer significant due to ceiling effects. For example, 'having two sets of clothes' and 'thinks life will be better in the future' reach 97 and 93 per cent for the treatment group respectively by the 24-month follow-up (Table 7, page 26) and have limited room for further improvement while the control group values continue to trend upwards as this was a period of strong economic growth in Zambia. Of particular interest is the strong effect on women's savings which turns out to be at least partially responsible for the impact on non-fam enterprise that is observed in these figures (Natali et al. 2016). In the Finance & Debt domain at 36 months, the two indicators on new borrowing and amount of outstanding debt are not significant – these were not collected at 24 months in the CGP evaluation.

Figures 7 and 8 show results by indicator for the MCP – recall that all domain indices were statistically significant for this programme. At 24 months five individual indicators are not statistically different from 0. The large effects on total consumption are driven by food rather than non-food consumption, the Income & Revenue index impacts are driven by the value of harvest and the amount spent on agricultural inputs and the Relative Poverty index is driven by the indicator on

[5] The food security scale consists of eight individual questions –we only report three of the eight in these graphs and subsequent tables.

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Figure 5 – *Intent-to-treat effects at 24 months (CGP)*

Figure 6 – *Intent-to-treat effects at 36 months (CGP)*

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Figure 7 – Intent-to-treat effects at 24 months (MCP)

Endline 1 (24 months) at a glance

Consumption
Total consumption pc*
Food consumption pc
Non-food consumption pc

Food security
Food security scale (HFIAS)*
Does not worry about food
Does not go to sleep hungry at night
Does not go whole day w/o eating

Assets
Overall asset index*
Domestic asset index
Livestock index
Productive asset index

Income and Revenues
Income & revenues index*
Harvest value [ZMW]
Agricultural input spending [ZMW]
Operating a NFE
Revenues from NFEs

Finance and Debt
Finance & debt index*
Held any savings (women only)
Amount saved [ZMW] (women only)
No outstanding debt
Reduction in amount owed
No new borrowing
Reduction in amount borrowed

Relative Poverty
Relative poverty index*
Does not consider hh very poor
Hh better off compared to 12 months ago
Life will be better in the future (women only)

Material needs (children 5-17)
Material needs index*
Shoes
Two sets of clothes
Blanket

Schooling (children 11-17)
Schooling index*
Currently attending
Days in attendance prior week

* A star indicates the summary index for each domain. Confidence intervals shown in this figure are not for multiple inference testing.

Effect size in SDs of the control group

Figure 8 – Intent-to-treat effects at 36 months (MCP)

Endline 2 (36 months) at a glance

Consumption
Total consumption pc*
Food consumption pc
Non-food consumption pc

Food security
Food security scale (HFIAS)*
Does not worry about food
Does not go to sleep hungry at night
Does not go whole day w/o eating

Assets
Overall asset index*
Domestic asset index
Livestock index
Productive asset index

Income and Revenues
Income & revenues index*
Harvest value [ZMW]
Agricultural input spending [ZMW]
Operating a NFE
Revenues from NFEs

Finance and Debt
Finance & debt index*
Held any savings (women only)
Amount saved [ZMW] (women only)
No outstanding debt
Reduction in amount owed
No new borrowing
Reduction in amount borrowed

Relative Poverty
Relative poverty index*
Does not consider hh very poor
Hh better off compared to 12 months ago
Life will be better in the future (women only)

Material needs (children 5-17)
Material needs index*
Shoes
Two sets of clothes
Blanket

Schooling (children 11-17)
Schooling index*
Currently attending
Days in attendance prior week

* A star indicates the summary index for each domain. Confidence intervals shown in this figure are not for multiple inference testing.

Effect size in SDs of the control group

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whether life is better than 12 months ago. At 36 months more individual indicators within the Finance & Debt domain become insignificant but this overall index continues to be significant, driven by women's savings. As noted earlier, point estimates appear to get larger across the board with the exception of the Finance & Debt indicators, but none are statistically different from their respective 24 month impacts.

The key differences in the pattern of impacts across programmes are the strong effects on non-farm business activity generated by the CGP which do not occur in the MCP, the extremely large effect on livestock of the MCP (an effect of 0.80 SD by 36 months), and the strong effects of the MCP on schooling among older children which do not occur in the CGP. These differences can reasonably be linked to the different demographic structures across beneficiaries of the two programmes and they may have implications for the longer term 'graduation' potential of the two types of households.

6.1 Effect sizes and comparison with other cash transfer programmes

It is worth highlighting some of the programme effects in actual units to compare with other cash transfer programmes. We focus on the 36-month impacts though estimates for each round can be found in the Appendix (Tables A5–A21, pages 33-45). The increase in consumption is in the order of 20 and 31 per cent for the CGP and MCP respectively, significantly higher than the 14 per cent increase in consumption reported for CCTs in Mexico (Hoddinott and Skoufias 2004), Colombia (Attanasio and Mesnard 2006) and Nicaragua (Maluccio and Flores 2005), and much larger than the 5 per cent increase reported by Banerjee et al (2015) in their six-country study of graduation programmes but in line with the 29 per cent reported by Blattman et al (2016) for a graduation-type programme in Uganda. Impacts on subjective poverty measured by 'believes household is not very poor' are 20 and 30 percentage points for the CGP and MCP respectively, which mirror the pattern of consumption effects.

School enrolment increases by 9 percentage points in the MCP for children aged 11-17 which includes the important transition years between primary and secondary school where drop outs peak. While there are no significant effects for this age group in the CGP, this is probably due to the few children of age 14+ in those sample households. When we restrict the age range to 11-14 in the CGP we do find significant programme impacts also of 9 percentage points (Handa et al. 2016). These magnitudes compare favourably to secondary school-age schooling impacts from large CCTs in Latin America such as in Mexico (8-10 percentage points, Schultz, 2004) and Colombia (5-7 percentage points, Attanasio et al 2010) as well as from other unconditional cash transfers closer to home in Kenya (8 percentage points, Kenya CT-OVC Evaluation Team, 2012) and Ghana (8 percentage points, de Groot et al 2015).

The more provocative impacts, given the nature of the intervention, are undoubtedly related to asset accumulation and economic activity. The CGP increases participation in non-farm enterprise by 15 points and revenues by 81 per cent or 0.45 SD. While this is much lower than the 48 point increase in business enterprise reported by Blattman et al (2016), the programme they evaluate provides cash conditional on opening a business. The revenue impacts in the Zambian programmes are comparable to those reported by Banerjee et al (2015) of 0.38 SD.

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The effect sizes for amount saved are 57 and 67 per cent for the CGP and MCP respectively, compared to the close to 100 per cent increase in savings reported by Banerjee et al (2015) and the 300 per cent increase reported by Blattman et al (2016). The overall asset index effects are 0.58 and 0.80 SD in the CGP and MCP, compared to 0.25 in the six-country graduation model study presented in Banerjee et al (2015) and 0.40 SD in the Ugandan programme evaluated by Blattman et al (2016). As mentioned earlier, the evidence on assets and economic activity from CCTs is mixed, but Covarrubias et al (2012) report a doubling of the share of households with small agricultural tools such as axes and sickles due to the Malawi Social Cash Transfer Programme, which is an unconditional cash transfer targeted to labor-constrained ultra-poor rural households and very similar to the MCP in terms of target group.

Beyond schooling, the Zambian programmes have substantial impacts on children's material needs of 26-28 percentage points, so that by endline about 65 per cent of children aged 5-17 have at least a pair of shoes, a change of clothes and access to a blanket, up from only 13 per cent at baseline. This is driven primarily by possession of shoes, which went from about 17 per cent at baseline to 67 per cent at 36 months.

Table 7 – *Table of means by wave and treatment for household outcome variables (panel households) [CGP]*

	Baseline		24 months		36 months	
	Control	Treatment	Control	Treatment	Control	Treatment
Total consumption pc (ZMW)	39.56	41.55	43.30	59.87	51.38	64.40
Food consumption pc (ZMW)	29.14	30.87	31.93	44.77	38.87	48.30
Non-food consumption pc (ZMW)	10.42	10.68	11.37	15.10	12.51	16.10
Does not worry about food	0.21	0.20	0.31	0.48	0.24	0.40
Able to eat preferred food	0.21	0.21	0.27	0.39	0.23	0.35
Does not eat unwanted food	0.19	0.21	0.23	0.41	0.24	0.37
Does not eat smaller meal	0.19	0.21	0.28	0.49	0.28	0.45
Does not eat fewer meals	0.20	0.23	0.31	0.53	0.32	0.56
Does not lack food due to scarce resources	0.33	0.37	0.64	0.81	0.78	0.89
Does not go to sleep hungry at night	0.43	0.50	0.70	0.85	0.84	0.94
Does not go whole day w/o eating	0.50	0.56	0.80	0.90	0.91	0.96
Food security scale (HFIAS)	8.74	9.05	11.62	14.38	12.49	15.19
Domestic asset index	0.27	0.31	0.28	0.47	0.32	0.54
Livestock index	0.20	0.22	0.17	0.34	0.17	0.35
Productive asset index	0.32	0.35	0.34	0.47	0.38	0.49
Harvest value [ZMW]	329.10	360.17	447.00	595.50	448.19	728.34
Agricultural input spending [ZMW]	12.59	25.57	22.33	60.03	26.60	35.46
Does not consider hh very poor	0.38	0.45	0.35	0.71	0.44	0.72
Better off compared to 12 months ago	0.09	0.11	0.12	0.61	0.07	0.33
Operating NFE			0.30	0.47	0.31	0.46
Revenues from NFEs (ZMW)			76.74	252.85	100.37	203.00
No outstanding debt					0.88	0.94
Reduction in amount owed (log)					-0.51	-0.25
Amount owed (ZMW)					14.19	24.77

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Table 7 →

	Baseline		24 months		36 months	
	Control	Treatment	Control	Treatment	Control	Treatment
No new borrowing					0.79	0.80
Reduction in amount borrowed (log)					-0.81	-0.79
Amount borrowed (ZMW)					36.44	31.04
Women only						
Held any savings	0.16	0.18	0.22	0.47	0.22	0.35
Amount saved [log]	0.59	0.66	0.84	2.00	0.95	1.60
Life will be better in the future	0.67	0.70	0.87	0.96	0.87	0.93
Children age 5-17						
Child has shoes	0.14	0.14	0.29	0.62	0.41	0.67
Child has two sets of clothing	0.63	0.64	0.89	0.97	0.94	0.97
Child has blanket	0.58	0.56	0.77	0.96	0.87	0.98
All needs met	0.11	0.11	0.26	0.61	0.39	0.66
Children age 11-17						
Currently attending school	0.79	0.81	0.85	0.85	0.82	0.86
Full attendance prior week	0.60	0.65	0.71	0.74	0.65	0.71
Children 0-59 months						
Not stunted	0.65	0.66	0.61	0.64	0.68	0.64
Not wasted	0.94	0.94	0.95	0.96	0.93	0.93
Not underweight	0.84	0.83	0.84	0.85	0.86	0.85

Table 8 – *Table of means by wave and treatment for hh outcome variables (panel households) [MCP]*

	Baseline		24 months		36 months	
	Control	Treatment	Control	Treatment	Control	Treatment
Total consumption pc (ZMW)	52.04	50.23	65.45	76.98	62.80	81.59
Food consumption pc (ZMW)	40.47	38.24	48.96	58.07	46.02	60.96
Non-food consumption pc (ZMW)	11.57	12.00	16.49	18.92	16.78	20.63
Does not worry about food	0.15	0.15	0.20	0.31	0.24	0.42
Able to eat preferred food	0.16	0.14	0.19	0.31	0.26	0.42
Does not eat unwanted food	0.16	0.13	0.21	0.31	0.29	0.45
Does not eat smaller meal	0.17	0.16	0.26	0.38	0.33	0.50
Does not eat fewer meals	0.21	0.20	0.31	0.43	0.37	0.55
Does not lack food due to scarce resources	0.44	0.44	0.78	0.80	0.63	0.79
Does not go to sleep hungry at night	0.54	0.52	0.82	0.90	0.72	0.86
Does not go whole day w/o eating	0.60	0.58	0.92	0.96	0.78	0.89
Food security scale (HFIAS)	9.35	9.26	12.25	14.04	11.49	14.16
Domestic asset index	0.44	0.39	0.41	0.49	0.43	0.62
Livestock index	0.30	0.26	0.22	0.37	0.25	0.49
Productive asset index	0.74	0.72	0.77	0.83	0.75	0.84
Harvest value [ZMW]	1,058.29	876.36	694.49	873.95	666.38	876.54
Agricultural input spending [ZMW]	61.35	34.73	50.89	69.85	68.13	107.20
Does not consider hh very poor	0.35	0.32	0.37	0.60	0.39	0.66

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Table 8 ➝

	Baseline		24 months		36 months	
	Control	Treatment	Control	Treatment	Control	Treatment
Better off compared to 12 months ago	0.09	0.07	0.07	0.43	0.10	0.43
Operating NFE			0.12	0.10	0.08	0.10
Revenues from NFEs (ZMW)			19.34	32.38	16.18	29.12
No outstanding debt			0.93	0.96	0.96	0.97
Reduction in amount owed (log)			-0.27	-0.15	-0.14	-0.12
Amount owed (ZMW)			8.87	5.02	5.04	7.63
No new borrowing			0.82	0.88	0.85	0.87
Reduction in amount borrowed (log)			-0.70	-0.49	-0.64	-0.55
Amount borrowed (ZMW)			17.61	14.52	22.50	15.71
Women only						
Held any savings	0.12	0.12	0.19	0.34	0.11	0.26
Amount saved [log]	0.41	0.40	0.79	1.41	0.43	1.09
Life will be better in the future	0.77	0.80	0.85	0.92	0.82	0.90
Children age 5-17						
Child has shoes	0.22	0.19	0.41	0.60	0.44	0.66
Child has two sets of clothing	0.79	0.74	0.96	0.97	0.91	0.97
Child has a blanket	0.63	0.58	0.83	0.93	0.80	0.93
All needs met	0.17	0.14	0.38	0.57	0.40	0.63
Children age 11-17						
Currently attending	0.80	0.75	0.70	0.76	0.66	0.71
Full attendance prior week	0.64	0.60	0.53	0.56	0.43	0.48

Heterogeneous impacts

We investigated whether there were heterogeneous programme impacts by baseline levels of consumption (Table A22, page 45). We found no indication that impacts depended on baseline levels of consumption.

7. DISCUSSION AND CONCLUSION

A relatively simple flat cash transfer, unconditional and paid bimonthly, has wide-ranging effects on ultra-poor households in rural Zambia, significantly raising consumption, food security and children's schooling and material well-being, while at the same time strengthening economic capacity and assets. The annual amount transferred to a household is USD144 (or USD288 PPP). We compare this annual transfer to what households spend based on the estimates shown above. We track and/or quantify all expenditure that we can measure in our survey instrument, notably consumption expenditures, savings, debt reduction, spending on non-consumption items such as agricultural inputs (tools, seeds, fertilizer) and livestock purchases. For productive tools and livestock, we estimate the impact on the number purchased and monetize using market prices taken either from the community price questionnaire fielded as part of the evaluation, from the National Living Standards Measurement Survey if not in our own survey, or by direct observation in local markets. Other spending items are already measured in Kwacha. All monetary values are deflated

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to baseline Kwacha (2010 for CGP and 2011 for MCP), annualized, and compared to the annual amount transferred to each household in Kwacha. Only statistically significant impacts are considered. We base our calculations on 24-month impact estimates, 36-month impact estimates, and the average of the 24- and 36-month impact estimates (pooled impact estimates) to get a range of estimated spending.

Results of this exercise are shown in Table 9, and range from 1.23 in the CGP at 36-months to 2.08 in the MCP at 36 months. Using the pooled estimates and averaging across both programmes gives a multiplier of 1.59. This means that households spend 59 per cent more ZMW than they actually receive through the cash transfer. This multiplier must operate through increased income evoked by the cash transfer. For the CGP this is through non-farm business activity and the increased revenue generated from these businesses. The CGP also has a significant impact on the value of sales of agricultural products (Daidone et al 2014). For the MCP, this is through the value of crop production, and given the large increment in livestock holdings, possibly through the sale of livestock-derived products such as eggs though we do not capture these revenue sources in our data.[6]

Table 9 – *Estimated multiplier effects of the two programmes*

	CGP	MCP
24-month impacts	1.64 [0.96-2.33]	1.38 [0.63-2.10]
36-month impacts	1.23 [0.65-1.81]	2.08 [1.09-3.07]
Pooled impacts	1.46 [0.88-2.05]	1.72 [0.94-2.50]

Notes: The multiplier effect is computed as the ratio of the sum total of annualized spending impacts over the annual value of the transfer; spending impacts include: consumption, savings, loan repayment, livestock purchases and productive tools. Impacts are based on estimated econometric results reported in the Appendix (and pooled estimates, available upon request). Only statistically significant (at the 5 per cent level) impact estimates are considered. Loan repayments were not measured in the CGP at 24 months.

These estimates are not directly comparable to those from Banerjee et al (2015), who consider the initial two years of the graduation programme as the investment period, and then calculate the benefits as the present value of the future stream of consumption and revenue assuming that benefits one year after the programme ended are maintained permanently. Our estimates do not assume an investment period because the goal of these UCTs is protection and not investment. For this reason we prefer a 'follow the money' approach to see if the programme leads to households boosting their spending over and above what they actually receive, a multiplier that would be generated if households used some of it to improve their income-earning capacity.

The generalizability of the results presented here is quite high. The majority of existing national cash transfer programmes in SSA are unconditional and target beneficiaries at similar levels of poverty. In terms of demographic structure, large programmes in Ethiopia, Ghana, Kenya, Malawi,

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[6] Spending and investments of programme participants can generate impacts beyond the beneficiary population through economic transactions. Our collaborators at the FAO have estimated a local economy multiplier of the CGP of 1.79, with the majority of these spill-overs occurring to non-beneficiaries (Thome et al. 2016). Hence the estimates reported here are under-estimates of the total multiplier generated by these programmes.

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Mozambique and Zimbabwe target so-called 'labour-constrained' households with high dependency ratios and demographic profiles similar to the MCP, while the largest cash transfer programme on the continent is the South African Child Support Grant which targets children up to age 17. Like the two Zambian programmes, these are all implemented by national governments and are unconditional.

It has recently been suggested that all development interventions should be 'benchmarked' against a 'pure' unconditional cash transfer.[7] If the two Zambian programmes studied here represent such a benchmark, the results in this paper suggest a high bar for other interventions to match. It is not straightforward to compare these programmes with the graduation models without a head-to-head comparison. A quick comparison of results with the graduation model evaluated by Banerjee et al (2015) suggests a range of effects and effect sizes which are comparable. However Banerjee et al (2015) measured impacts one year after the programme ended and three years after the initial asset plus cash injection began. The estimates we present are while the programme is ongoing, and we therefore cannot make any conclusions about the long-run sustainability of these impacts if beneficiaries stopped receiving cash. Indeed our knowledge of the local context suggests to us that in the absence of any additional interventions to increase skills, or provide new farming technology, or improve off-farm employment opportunities, it would not be surprising to see these effects disappear a few years after households were 'graduated' from the programme.

Perhaps a more relevant comparison to consider is between an unconditional and conditional cash transfer. A few experiments have been designed to make head-to-head comparisons between conditional and unconditional programmes (e.g. Baird et al. 2011) but these necessarily focus on outcomes that are subject to conditions (typically school enrolment and health care use), whereas what the Zambia evaluations hint at is what conditional programmes might lose by forcing beneficiaries to focus on health and schooling, such as increased economic productivity and asset accumulation which are core to household survival and can also generate increases in demand for schooling and health through income effects. In the Zambia case, the impacts on schooling, typically an outcome that is a focus of the CCT programmes, are well within the range of those reported for large-scale CCTs in Colombia and Mexico.

In conclusion, two government-led unconditional cash transfer programmes in rural Zambia lead to strong protective and productive impacts for ultra-poor households. Some of the impacts on consumption and asset accumulation are comparable to graduation type programmes recently evaluated in the literature, while the schooling impacts are comparable to those generated by CCTs in Latin America. The overarching objective of unconditional cash transfers is to support food security and consumption, and productive objectives tend to be secondary. However the results we present imply sizeable productive effects, leading to income multipliers of around 59 per cent on average. Are these households ready to graduate? Given the extreme poverty and harsh environmental conditions facing them, it would very likely take more than just USD12 per month for three years to permanently move these households out of poverty. Nevertheless, unconditional cash transfer programmes are clearly not 'hand-outs' that lead to dependency. By allowing households to meet their consumption needs and to eventually diversify livelihoods and accumulate assets, they can make an important contribution to the inclusive growth agenda of the governments of developing countries.

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[7] http://www.cgdev.org/event/cash-transfers-new-benchmark-foreign-aid

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APPENDIX

Table A1 – *Indicator definitions*

DOMAIN	Indicators	Level	
CONSUMPTION	Overall per capita consumption Food consumption Non-food consumption	Household (pc)	Sum of responses for 217 individual consumption item for food and non-food. Module taken in its entirety from Zambia Living Conditions Monitoring Survey. Recall period ranges from last 7 days for frequent items to last month, last 3 months and last 12 months for less frequent items. Food includes value of own production. All items include value of gifts. Aggregate deflated by household size and further deflated to study baseline (either 2010 or 2011). Logged.
FOOD SECURITY	Never or rarely worries about food Able to eat preferred food Never or rarely eats food he/she does not want to it due to lack of resources Never or rarely eats smaller meal than needed Never or rarely eats fewer meals because there is not enough food Never or rarely has no food to eat because of lack of resources Never or rarely goes to sleep hungry Never or rarely goes a whole day/night w/o eating	Household	Reference period is last 4 weeks. Codes are 0=never; 1=rarely(once or twice); 2=sometimes (3-10 times); 3=often (more than 10 times). We turn this categorical variable into a dummy by considering food secure those that never or rarely (codes 0 and 1) experience each one of the 8 situations described.
	Food security scale (HFIAS, 0-24 where higher means more food secure)*		Scale score created by aggregating the responses to the eight individual food security questions.
ASSETS	Domestic Asset index Livestock index Productive index	Household	Computed by PCA on number of household assets/livestock/productive assets owned (restricting to assets for which information is available in all waves). The index is then turned positive through a monotonic transformation and then logged.
FINANCE / DEBT	Savings, extensive margin	Woman	Binary variable equals to 1 if woman is currently saving in cash
	Savings, intensive margin		Amount saved by women in the last month
	Whether household has new loan	Household	In the last year did you or anyone in the household borrow money from any person or institution?
	Reduction in the amount borrowed		How much did your household borrow overall from each source, in the last 6 months?
	Not having an outstanding longer-term loan (loans taken out more than 6 months before the follow-up considered)		Does your household still owe money for any loan contracted before …? (6 months before follow-up considered)
	Reduction in the amount owed		How much does your household still owe?

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Table A1 →

DOMAIN	Indicators	Level	
INCOME AND REVENUES	Value of harvest ZMW	Household	
	Total crop expenditures		
	NFEs [operating or not]		Did you operate any non-farm enterprises or provide any services (store, transport, home brewing, trade, etc) in the last 12 months?
	NFEs [revenues]		Total revenue from these businesses in an average month.
RELATIVE (and/or subjective) POVERTY	Not considering household very poor	Household	Do you consider your household to be non-poor, moderately poor or very poor?
	Better off compared to 12 months ago		Compared to 12 months ago, do you consider your household to be better off, the same or worse-off now?
	Think life will be better than it is now in either 1, 3 or 5 years	Woman	Do you think your life will be better in [...] from now? [...] from 1 year [...] from 3 years [...] from 5 years In this case the variable, is a dummy equal to one if any of the three questions reported above is equal to one.
MATERIAL NEEDS	Shoes	Child (5-17)	Does [...] have a pair of shoes?
	Blanket		Does [...] have a blanket? (either shared or owned)
	Two sets of clothes		Does [...] have at least two sets of clothes?
	All needs met*		Dummy variable equal to 1 if the child has all the above needs (shoes, blanket, clothes) met.
SCHOOLING	School enrolment	Child (11-17)	Is [...] currently attending school?
	Days attended in prior week		How many days did [...] attend in the past week?
NUTRITION OF YOUNG CHILDREN [CGP only]	Not underweight	Child (0-5)	Underweight (moderate) definition: below minus two standard deviations from median weight for age of reference population.
	Not wasted		Wasting (moderate): below minus two standard deviations from median weight for weight of reference population.
	Not stunted		Stunting (moderate): below minus two standard deviations from median height for age of reference population.

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Table A2 – *Baseline balance tests for children [0-59m] indicators (balanced household panel) [CGP]*

	All	Control	Treatment	P-value of difference
Not stunted	0.65	0.65	0.66	0.65
Not wasted	0.94	0.94	0.94	0.45
Not underweight	0.84	0.84	0.83	0.65
Child's weight-for-age: z-score	-0.90	-0.87	-0.93	0.32
Child's height-for-age: z-score	-1.41	-1.41	-1.42	0.92
Underweight	0.16	0.16	0.17	0.65

P-values are reported from Wald tests on the equality of means of Treatment and Control for each variable. Standard errors are clustered at the community level. N=3,564; of which 1,778 in the treatment group.

Table A3 – *Attrition analysis of key and outcome indicators among hhs at baseline [CGP] balanced panel*

	Control			Treatment			Difference	
	Attritors	Non-attritors	P-value	Attritors	Non-attritors	P-value	Col(1)-Col(4)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Recipient widowed	0.06	0.06	1.00	0.12	0.06	0.08	-0.05	0.21
Recipient never married	0.06	0.11	0.02	0.07	0.11	0.08	-0.01	0.75
Recipient divorced or separated	0.08	0.09	0.79	0.08	0.06	0.43	-0.00	0.94
Recipient ever attended school	0.79	0.70	0.01	0.79	0.74	0.16	0.00	0.95
Female recipient	0.98	0.99	0.33	0.98	0.99	0.71	0.00	0.95
Age of recipient	30.20	29.58	0.56	31.36	29.91	0.11	-1.16	0.43
Household size	5.66	5.63	0.90	5.71	5.76	0.85	-0.05	0.88
Number of people aged 0-5	2.10	1.90	0.00	1.80	1.89	0.28	0.30	0.00
Number of people aged 6-12	1.15	1.27	0.35	1.31	1.27	0.77	-0.15	0.40
Number of people aged 13-18	0.46	0.53	0.33	0.61	0.60	0.86	-0.15	0.14
Number of people aged 19-35	1.28	1.30	0.75	1.30	1.36	0.46	-0.02	0.85
Number of people aged 36-55	0.55	0.54	0.85	0.58	0.54	0.59	-0.03	0.74
Number of people aged 56 - 69	0.10	0.07	0.19	0.08	0.07	0.71	0.02	0.62
Number of people aged 70 or older	0.02	0.03	0.30	0.03	0.03	0.88	-0.02	0.37
Total household expenditure per person in the household	38.32	39.60	0.69	40.83	41.57	0.85	-2.51	0.61
Value of harvest	509.17	328.84	0.02	280.32	360.12	0.10	228.85	0.02
Does not worry about food	0.13	0.21	0.09	0.23	0.20	0.62	-0.09	0.15
Able to eat preferred food	0.13	0.21	0.07	0.23	0.21	0.71	-0.10	0.10
Does not go to sleep hungry at night	0.40	0.43	0.61	0.44	0.50	0.27	-0.04	0.60
Does not go whole day w/o eating	0.48	0.50	0.75	0.55	0.56	0.85	-0.07	0.47
Food security scale (HFIAS)	7.92	8.73	0.21	9.29	9.04	0.66	-1.37	0.09
Owned any chickens in last 12 months	0.37	0.43	0.15	0.33	0.44	0.02	0.04	0.45
Owned any goats in last 12 months	0.04	0.01	0.15	0.03	0.03	0.59	0.01	0.56
Owns a pick	0.02	0.03	0.80	0.01	0.03	0.06	0.02	0.30

Overall N for control is 1,259 (In study/non-attritors=1,133; Attritors=126). Overall N for treated is 1,260 (In study/non-attritors=1,139; Attritors=121).
*** p<0.01, ** p<0.05, *** p<0.1 T-tests based on standard errors clustered at the community level.

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Table A4 – *Attrition analysis of key household indicators at baseline [MCP]*

	Control			Treatment			Difference	
	Attritors	Non-attritors	P-value	Attritors	Non-attritors	P-value	Col(1)-Col(4)	P-value
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Household size	4.66	5.02	0.41	4.78	5.00	0.46	-0.12	0.83
Number of people aged 0-5	0.87	0.68	0.20	0.79	0.73	0.48	0.07	0.67
Number of people aged 6-12	1.00	1.23	0.29	1.01	1.31	0.01	-0.01	0.96
Number of people aged 13-18	0.74	0.98	0.09	0.90	0.93	0.80	-0.16	0.38
Number of people aged 19-35	0.81	0.82	0.91	0.87	0.76	0.36	-0.06	0.72
Number of people aged 36-55	0.49	0.54	0.67	0.53	0.52	0.89	-0.04	0.77
Number of people aged 56-69	0.34	0.37	0.67	0.23	0.39	0.00	0.11	0.19
Number of people aged 70 or older	0.42	0.40	0.82	0.45	0.36	0.15	-0.03	0.75
Total household expenditure per person in the household	62.01	51.50	0.12	70.01	49.71	0.01	-8.00	0.45
Female recipient	0.79	0.75	0.46	0.77	0.76	0.84	0.02	0.78
Recipient age	57.81	56.97	0.73	55.45	56.16	0.73	2.36	0.48
Recipient widowed	0.09	0.55	0.00	0.06	0.56	0.00	0.04	0.46
Recipient never married	0.04	0.04	0.95	0.03	0.03	0.86	0.00	0.92
Recipient divorced	0.08	0.10	0.57	0.07	0.09	0.33	0.01	0.88
Recipient ever attended school	0.66	0.64	0.81	0.64	0.64	0.94	0.02	0.85
Value of harvest	708.16	1,058.37	0.00	836.69	874.64	0.75	-128.54	0.42
Does not worry about food	0.17	0.15	0.70	0.16	0.15	0.86	0.01	0.86
Able to eat preferred food	0.16	0.16	0.98	0.15	0.14	0.87	0.01	0.92
Does not go to sleep hungry at night	0.56	0.54	0.84	0.69	0.52	0.00	-0.13	0.16
Does not go whole day w/o eating	0.62	0.60	0.79	0.70	0.58	0.03	-0.09	0.33
Food security scale (HFIAS)	9.44	9.34	0.90	10.29	9.25	0.09	-0.85	0.38
Owned any chickens in last 12 months	0.38	0.50	0.11	0.44	0.45	0.78	-0.05	0.60
Owned any goats in last 12 months	0.04	0.13	0.00	0.09	0.10	0.74	-0.05	0.16
Owns a pick	0.06	0.09	0.32	0.11	0.07	0.15	-0.06	0.23

Overall N for control is 1,517 (In study/non-attritors=1,464; Attritors=53). Overall N for treated is 1,561 (In study/non-attritors=1,474; Attritors=87).

*** p<0.01, ** p<0.05, *** p<0.1 T-tests based on standard errors clustered at the community level.

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RESULTS IN ACTUAL UNITS BY DOMAIN

Table A5 – *Effects of CGP on consumption (actual units)*

	Food consumption pc	Non-food consumption pc	Total consumption pc[a]
Impact at 24 months	0.28	0.23	0.28
	(0.07)***	(0.07)***	(0.07)***
Impact at 36 months	0.19	0.19	0.20
	(0.05)***	(0.07)**	(0.05)***
R^2	0.25	0.19	0.27
N	6,813	6,813	6,813
Unadjusted p-value: 24m impact=0	0.00	0.00	
Adjusted p-value: 24m impact=0	0.00	0.00	
Unadjusted p-value: 36m impact=0	0.00	0.01	
Adjusted p-value: 36m impact=0	0.00	0.02	

Notes: Estimations use difference in difference modeling. Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.
[a] Summary index for the consumption domain.

Table A6 – *Effects of MCP on consumption (actual units)*

	Food consumption	Non-food consumption	Total consumption[a]
Impact at 24 months	0.26	0.08	0.22
	(0.08)***	(0.07)	(0.06)***
Impact at 36 months	0.37	0.13	0.31
	(0.11)***	(0.08)*	(0.09)***
R^2	0.28	0.27	0.32
N	8,810	8,810	8,810
Unadjusted p-value: 24m impact=0	0.00	0.27	
Adjusted p-value: 24m impact=0	0.00	0.46	
Unadjusted p-value: 36m impact=0	0.00	0.10	
Adjusted p-value: 36m impact=0	0.00	0.18	

Notes: Estimations use difference-indifference modeling. Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.
[a] Summary index for the consumption domain.

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Table A7 – *Effects of CGP on food security (actual units)*

	Does not worry about food	Able to eat preferred food	Does not eat unwanted food	Does not eat smaller meal	Does not eat fewer meals	Does not lack food food due to scarse resources	Does not go to sleep hungry	Does not go whole day w/o eating	Food security scale (HFIAS)[a]
Impact at 24 months	0.17 (0.05)***	0.12 (0.05)**	0.15 (0.05)***	0.18 (0.05)***	0.19 (0.05)***	0.14 (0.05)**	0.08 (0.06)	0.04 (0.06)	2.46 (0.61)***
Impact at 36 months	0.16 (0.05)***	0.11 (0.05)**	0.11 (0.05)**	0.15 (0.05)***	0.21 (0.05)***	0.07 (0.05)	0.03 (0.05)	-0.01 (0.05)	2.39 (0.69)***
R^2	0.06	0.04	0.04	0.07	0.09	0.21	0.19	0.19	0.22
N	6,815	6,802	6,813	6,812	6,810	6,804	6,813	6,808	6,776
Unadjusted p-value: 24m impact=0	0.00	0.02	0.01	0.00	0.00	0.01	0.17	0.52	
Adjusted p-value: 24m impact=0	0.01	0.16	0.04	0.01	0.00	0.09	0.78	1.00	
Unadjusted p-value: 36m impact=0	0.00	0.04	0.04	0.01	0.00	0.22	0.52	0.88	
Adjusted p-value: 36m impact=0	0.02	0.30	0.31	0.05	0.00	0.87	1.00	1.00	

Notes: See notes to Table A5.
[a] Summary index for the food security domain.

Table A8 – *Effects of MCP on food security (actual units)*

	Does not worry about food	Able to eat preferred food	Does not eat unwanted food	Does not eat smaller meal	Does not eat fewer meals	Does not lack food food due to scarse resources	Does not go to sleep hungry	Does not go whole day w/o eating	Food security scale (HFIAS)a
Impact at 24 months	0.11 (0.04)***	0.13 (0.04)***	0.14 (0.04)***	0.13 (0.04)***	0.13 (0.04)***	0.03 (0.05)	0.11 (0.05)**	0.05 (0.04)	1.88 (0.49)***
Impact at 36 months	0.18 (0.05)***	0.18 (0.05)***	0.19 (0.04)***	0.18 (0.04)***	0.17 (0.04)***	0.16 (0.04)***	0.17 (0.04)***	0.13 (0.04)***	2.75 (0.56)***
R^2	0.05	0.06	0.07	0.07	0.07	0.13	0.15	0.16	0.17
N	8,800	8,778	8,801	8,799	8,792	8,794	8,802	8,801	8,733
Unadjusted p-value: 24m impact=0	0.01	0.01	0.00	0.00	0.00	0.51	0.03	0.21	
Adjusted p-value: 24m impact=0	0.08	0.04	0.02	0.01	0.03	1.00	0.20	0.84	
Unadjusted p-value: 36m impact=0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Adjusted p-value: 36m impact=0	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	

Notes: See notes to Table A6.
[a] Summary index for the food security domain.

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Table A9 – *Effects of CGP on assets (actual units)*

	Asset index	Livestock index	Productive asset index
Impact at 24 months	0.15 (0.02)***	0.15 (0.03)***	0.10 (0.03)***
Impact at 36 months	0.18 (0.03)***	0.16 (0.03)***	0.09 (0.03)***
R^2	0.21	0.11	0.11
N	6,801	6,808	6,794
Unadjusted p-value: 24m impact=0	0.00	0.00	0.00
Adjusted p-value: 24m impact=0	0.00	0.00	0.00
Unadjusted p-value: 36m impact=0	0.00	0.00	0.00
Adjusted p-value: 36m impact=0	0.00	0.00	0.01

Notes: Estimations use difference in difference modeling. Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

Table A10 – *Effects of MCP on assets (actual units)*

	Asset index	Livestock index	Productive asset index
Impact at 24 months	0.13 (0.04)***	0.19 (0.03)***	0.08 (0.03)***
Impact at 36 months	0.24 (0.04)***	0.28 (0.04)***	0.11 (0.03)***
R^2	0.13	0.12	0.25
N	8,801	8,580	8,801
Unadjusted p-value: 24m impact=0	0.00	0.00	0.01
Adjusted p-value: 24m impact=0	0.00	0.00	0.02
Unadjusted p-value: 36m impact=0	0.00	0.00	0.00
Adjusted p-value: 36m impact=0	0.00	0.00	0.00

Notes: Estimations use difference-indifference modeling. Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

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Table A11 *– Effects of CGP on relative poverty (actual units)*

	Does not consider household very poor	Better off than 12 months ago	Believes life will be better in future
Impact at 24 months	0.28 (0.05)***	0.46 (0.03)***	0.06 (0.04)
Impact at 36 months	0.20 (0.05)***	0.24 (0.03)***	0.03 (0.05)
R^2	0.14	0.23	0.10
N	6,813	6,801	6,707
Unadjusted p-value: 24m impact=0	0.00	0.00	0.16
Adjusted p-value: 24m impact=0	0.00	0.00	0.41
Unadjusted p-value: 36m impact=0	0.00	0.00	0.49
Adjusted p-value: 36m impact=0	0.00	0.00	0.87

Notes: Estimations use difference in difference modeling. Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

Table A12 *– Effects of MCP on relative poverty (actual units)*

	Does not consider household very poor	Better off than 12 months ago	Believes life will be better in future
Impact at 24 months	0.26 (0.05)***	0.37 (0.03)***	0.04 (0.03)
Impact at 36 months	0.30 (0.06)***	0.35 (0.03)***	0.04 (0.04)
R^2	0.09	0.18	0.05
N	8,811	8,811	7,879
Unadjusted p-value: 24m impact=0	0.00	0.00	0.19
Adjusted p-value: 24m impact=0	0.00	0.00	0.47
Unadjusted p-value: 36m impact=0	0.00	0.00	0.23
Adjusted p-value: 36m impact=0	0.00	0.00	0.54

Notes: Estimations use difference-indifference modeling. Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

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Table A13 – *Effects of CGP on incomes and revenues (actual units)*

	Value of harvest	Amount spent on agricultural inputs	Operating NFE	Revenues from NFEs	Operating NFE	Revenues from NFEs
Impact at 24 months	0.40 (0.25)	0.89 (0.19)***	0.17 (0.04)***	1.11 (0.24)***		
Impact at 36 months	0.33 (0.28)	0.09 (0.20)			0.14 (0.03)***	0.81 (0.17)***
R^2	0.13	0.08	0.09	0.12	0.17	0.17
N	6,816	6,816	2,272	2,272	2,272	2,272
Unadjusted p-value: 24m impact=0	0.11	0.00	0.00	0.00		
Adjusted p-value: 24m impact=0	0.38	0.00	0.00	0.00		
Unadjusted p-value: 36m impact=0	0.24	0.66			0.00	0.00
Adjusted p-value: 36m impact=0	0.67	0.99			0.00	0.00

Notes: Estimations use difference-in-difference modelling (single-difference for NFE outcomes). Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

Table A14 – *Effects of MCP on incomes and revenues (actual units)*

	Value of harvest	Amount spent on agricultural inputs	Operating NFE	Revenues from NFEs	Operating NFE	Revenues from NFEs
Impact at 24 months	0.67 (0.21)***	1.04 (0.22)***	-0.01 (0.03)	-0.02 (0.14)		
Impact at 36 months	1.09 (0.21)***	1.41 (0.20)***			0.02 (0.02)	0.11 (0.10)
R^2	0.13	0.11	0.02	0.02	0.02	0.02
N	8,811	8,811	2,937	2,937	2,934	2,934
Unadjusted p-value: 24m impact=0	0.00	0.00	0.64	0.91		
Adjusted p-value: 24m impact=0	0.01	0.00	0.98	1.00		
Unadjusted p-value: 36m impact=0	0.00	0.00			0.42	0.29
Adjusted p-value: 36m impact=0	0.00	0.00			0.89	0.74

Notes: Estimations use difference-in-difference modeling (single difference for NFE outcomes). Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

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Table A15 – *Effects of CGP on finance and debt (actual units)*

	Holding any savings (women)	Amount saved (women)	No outstanding debt	Reduction in amount owed	No new borrowing	Reduction in amount borrowed
Impact at 24 months	0.22 (0.05)***	1.09 (0.18)***				
Impact at 36 months	0.10 (0.05)**	0.57 (0.18)***	0.06 (0.02)***	0.26 (0.08)***	0.02 (0.03)	0.05 (0.11)
R^2	0.08	0.10	0.02	0.02	0.01	0.02
N	6,667	6,658	2,272	2,270	2,271	2,271
Unadjusted p-value: 24m impact=0	0.00	0.00				
Adjusted p-value: 24m impact=0	0.00	0.00				
Unadjusted p-value: 36m impact=0	0.03	0.00	0.00	0.00	0.56	0.67
Adjusted p-value: 36m impact=0	0.17	0.01	0.00	0.00	0.99	1.00

Notes: Estimations use difference-in-difference modelling (single-difference for outstanding debt and credit outcomes). Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

Table A16 – *Effects of MCP on finance and debt (actual units)*

	Holding any savings (women)	Amount saved (women)	No outstanding debt	Reduction in amount owed	No new borrowing	Reduction in amount borrowed	No outstanding debt	Reduction in amount owed	No new borrowing	Reduction in amount borrowed
Impact at 24 months	0.14 (0.04)***	0.63 (0.18)***	0.03 (0.01)**	0.11 (0.05)**	0.05 (0.02)**	0.22 (0.09)**				
Impact at 36 months	0.14 (0.03)***	0.67 (0.14)***					0.01 (0.01)	0.02 (0.03)	0.02 (0.02)	0.10 (0.08)
R^2	0.05	0.06	0.02	0.02	0.03	0.03	0.01	0.02	0.02	0.02
N	7,860	7,854	2,936	2,930	2,933	2,926	2,936	2,932	2,934	2,933
Unadjusted p-value: 24m impact=0	0.00	0.00	0.03	0.03	0.02	0.01				
Adjusted p-value: 24m impact=0	0.02	0.00	0.14	0.15	0.12	0.09				
Unadjusted p-value: 36m impact=0	0.00	0.00					0.31	0.53	0.24	0.21
Adjusted p-value: 36m impact=0	0.00	0.00					0.89	0.99	0.81	0.75

Notes: Estimations use difference-in-difference modeling (single difference for debt and credit outcomes). Robust standard errors clustered at the community level are in parentheses. * p<0.1 ** p<0.05; *** p<0.01. Adjusted p-values are Sidak-Bonferroni corrected p-values. Estimations are adjusted and include recipient's age, education and marital status, household size and household demographic composition, and districts.

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Table A17 – *Effects of CGP on schooling 11-17 (actual units)*

	Currently attending	Number of days in attendance prior week
Impact at 24 months	-0.01 (0.03)	-0.00 (0.16)
Impact at 36 months	0.02 (0.03)	0.14 (0.16)
R^2	0.08	0.08
N	6,033	5,905
Unadjusted. p-value: DD24=0	0.60	0.99
Adjusted p-value: DD24=0	0.84	1.00
Unadjusted p-value: DD36=0	0.45	0.38
Adjusted p-value: DD36=0	0.70	0.62

Notes: See notes to Table A5. Controls also include the age and gender of the child.

Table A18 – *Effects of MCP on schooling 11-17 (actual units)*

	Currently attending	Number of days in attendance prior week
Impact at 24 months	0.11 (0.02)***	0.43 (0.18)**
Impact at 36 months	0.09 (0.03)***	0.52 (0.16)***
R^2	0.04	0.04
N	10,442	9,854
Unadjusted p-value: DD24=0	0.00	0.02
Adjusted p-value: DD24=0	0.00	0.04
Unadjusted p-value: DD36=0	0.00	0.00
Adjusted p-value: DD36=0	0.00	0.00

Notes: See notes to Table A6. Controls also include the age and gender of the child.

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Table A19 – *Effects of CGP on material needs 5-17 (actual units)*

	Child has shoes	Child has two sets of clothing	Child has blanket	All needs met[1]
Impact at 24 months	0.34 (0.05)***	0.08 (0.05)	0.20 (0.05)***	0.36 (0.05)***
Impact at 36 months	0.27 (0.04)***	0.02 (0.05)	0.12 (0.05)**	0.28 (0.04)***
R^2	0.25	0.21	0.22	0.27
N	14,828	14,821	14,827	14,813
Unadjusted p-value: DD24=0	0.00	0.14	0.00	
Adjusted p-value: DD24=0	0.00	0.37	0.00	
Unadjusted p-value: DD36=0	0.00	0.70	0.02	
Adjusted p-value: DD36=0	0.00	0.97	0.05	

Notes: See notes to Table A5. Controls also include the age and gender of the child.
[1] Summary index for the material needs domain.

Table A20 – *Effects of MCP on material needs 5-17 (actual units)*

	Child has shoes	Child has two sets of clothing	Child has a blanket	All needs met[1]
Impact at 24 months	0.22 (0.05)***	0.06 (0.03)*	0.15 (0.04)***	0.22 (0.04)***
Impact at 36 months	0.25 (0.04)***	0.11 (0.03)***	0.18 (0.04)***	0.26 (0.03)***
R^2	0.15	0.11	0.13	0.17
N	18,179	18,159	18,184	18,133
Unadjusted p-value: DD24=0	0.00	0.06	0.00	
Adjusted p-value: DD24=0	0.00	0.11	0.00	
Unadjusted p-value: DD36=0	0.00	0.00	0.00	
Adjusted p-value: DD36=0	0.00	0.01	0.00	

Notes: See notes to Table A6. Controls also include the age and gender of the child.
[1] Summary index for the material needs domain.

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Table A21 – *Effects of CGP on anthropometric indicators 0-59m (actual units)*

	Not stunted	Not wasted	Not underweight
Impact at 24 months	0.02 (0.02)	0.00 (0.01)	0.03 (0.02)
Impact at 36 months	-0.05 (0.02)*	-0.01 (0.02)	0.00 (0.02)
R^2	0.03	0.01	0.01
N	9,073	9,043	9,979
Unadjusted p-value: DD24=0	0.36	0.99	0.13
Adjusted p-value: DD24=0	0.73	1.00	0.35
Unadjusted p-value: DD36=0	0.07	0.74	0.95
Adjusted p-value: DD36=0	0.19	0.98	1.00

Notes: See notes to Table A5. Controls also include the age and gender of the child.

Table A22 – *Heterogeneous impacts*

	Total consumption pc	Food security scale (HFIAS)	Overall asset index	Relative poverty index	Incomes & Revenues index	Finance & Debt index
CGP	(1)	(2)	(3)	(4)	(5)	(6)
24-month*Treatment	0.462*** (0.103)	0.545*** (0.130)	0.539*** (0.102)	1.038*** (0.136)	0.408*** (0.129)	0.537*** (0.169)
36-month*Treatment	0.372*** (0.0919)	0.606*** (0.148)	0.507*** (0.109)	0.785*** (0.128)	0.175 (0.147)	0.321** (0.133)
Bottom 50*24-month*Treatment	0.104 (0.116)	-0.00232 (0.141)	0.0523 (0.108)	0.157 (0.138)	0.0140 (0.142)	0.110 (0.162)
Bottom 50*36-month*Treatment	0.0850 (0.113)	-0.134 (0.131)	0.110 (0.120)	-0.0788 (0.134)	-0.0842 (0.160)	-0.102 (0.142)
Observations	6,807	6,768	6,807	6,805	6,807	6,659
R^2-squared	0.373	0.111	0.229	0.232	0.144	0.080
MCP	(1)	(2)	(3)	(4)	(5)	(6)
24-month*Treatment	0.250*** (0.0770)	0.420*** (0.116)	0.413*** (0.0911)	0.984*** (0.135)	0.350*** (0.107)	0.207* (0.124)
36-month*Treatment	0.459*** (0.123)	0.546*** (0.127)	0.703*** (0.106)	0.825*** (0.129)	0.583*** (0.101)	0.442*** (0.139)
Bottom 50*24-month*Treatment	0.178 (0.123)	-0.0216 (0.126)	0.0263 (0.0786)	0.0964 (0.138)	0.204** (0.0981)	0.289** (0.134)
Bottom 50*36-month*Treatment	0.00443 (0.135)	-0.0333 (0.129)	0.000938 (0.102)	0.262** (0.128)	0.111 (0.0870)	0.0869 (0.141)
Observations	8,810	8,733	8,811	8,811	8,811	7,860
R^2-squared	0.392	0.092	0.279	0.182	0.160	0.047

See notes (in the main text) to Table 5 for the CGP and to Table 6 for the MCP.